



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
 Telefono 0444.968211 - Fax 0444.963838
 Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4/37
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CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1
 Nach/According to/Sein

Certificato nr. MEST319242 / 2018 /
 Prüfung/Test/Essai

Ciente / Besteller/Purchaser/Cliant
VALBRUNA CANADA LTD
 8724 HOLGATE CRESCENT
 L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura : Forged - Annealed Peeled
 Lieferzustand
 Delivery state
 Etat de livraison

Produttore :
 Hersteller/Item/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr. 809007124 STOCK
 Bestell
 Your order/
 Commande

Tipo di Elaborazione: E+AOD
 Erzeugnisart
 Making process
 Mode d'elaboration

Marchi di Fabbrica:
 Zeichen des Lieferwerkes
 Trade marks
 Signes de l'usine productrice



Conferma ordine nr. EI18008717
 Werk/Our Order/Ref. Nr.

Qualité: 316/316L
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:
 Stempel des Werkstoffschwermetallgen
 Inspector's stamp/Pointon de l'essayeur

MR

Avviso di Spedizione: D-VI18027870
 Lieferanzeige/Packung IS/VEL

Marca: APML
 Markenbezeichnung
 Brand/Name

Punzonatura: 316/316L
 Kennzeichnung
 Marking
 Marquage

SPECIFICHE :	Note:
Anforderungen / Requirements / Exigences	Aufzeichnungen / Notes / Notes
VSI 0 316/316L A	
AISI 316/316L	
AMS 5648 M S31600 A	
AMS 5653 H S31603 A	
AMS-QQ-S-763 D 316/316L A	
ASME SA182 2017 S31600/03 A (0)	(0)Section II Part A 2017 EDITION For products machined directly from bar refer to ASME SA478.
ASME SA193 2017 B8M CLASS 1 (1)	(1)Section II Part A 2017 EDITION
ASME SA276 2017 S31600/03 A (2)	(2)Section II Part A 2017 EDITION
ASME SA320 2017 B8M CLASS1 (3)	(3)Section II Part A 2017 EDITION
ASME SA479 2017 S31600/03 A (4)	(4)Section II Part A 2017 EDITION
ASTM A182 2018 S31600/03 A (5)	(5)For products machined directly from bar refer also to ASTM A478.
ASTM A193 2017 B8M CLASS 1	
ASTM A262 2015 PRACTICE E	
ASTM A276 2017 S31600/03 A	
ASTM A314 2015 S31600/03	
ASTM A320 2017A B8M CLASS1	
ASTM A370 2017	
ASTM A473 2001 S31600/03 (6)	(6)Chemical analysis only.
ASTM A479 2018 S31600/03 A	
MIL-S-862 B/1 316/316L	
NACE MR0103 2015 S31600/03 A (7)	(7)ANSI/NACE MR0103MSO 17945 November 23, 2015
NACE MR0175 2015 S31600/03 A (8)	(8)ANSI/NACE MR0175ISO 15156-3, 3rd edition November 23, 2015
QQ-S-763 F 316/316L A	

Tolleranza: ASTM A484-18 TABLE 3

Pos. nr. Pos. nr. No. de poste	Oggetto Description Description du produit	Dimensioni - In		Lunghezza - In Length Longueur	Colata Schmelz Heat Coulée	Pezzi Quantity Pieces	Peso - LB Gross Weight Poids	Lotto nr. Lot no. Lettre
		Abmessungen Dimension Dimension	Abmessungen Dimension Dimension					
0050	Round	16,0000		161/ 161	278063		9.387	821501840

P.O.#: P119172
 R#: R153427
 ITEM#: 523266
 HEAT#: 278063
 BRANCH#: 875

Provided by: ENCORE METALS DIVISION OF RMCL

MS



Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
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CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: EN 10204 (2004), 3.1 / ISO 10474 (2013), 3.1 Certificato nr. MEST319242 / 2018 / Prüfung/Test/Essai

Cliente / Besteller/Purchaser/Client VALBRUNA CANADA LTD 8724 HOLGATE CRESCENT L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA	Stato di fornitura: Forged - Annealed Peeled Lieferzustand Delivery state Etat de livraison	Produttore: Hersteller/Werksachse ACCIAIERIE VALBRUNA S.P.A.
Ordine nr. 809007124 STOCK Bestell Your order Commande	Tipo di Elaborazione: E+AAD Bearbeitungsart Working process Mode de fabrication	Marchi di Fabbrica: Zeichen des Lieferanten Trade marks Signes de l'usine productrice
Conferma ordine nr. EI18008717 Vertrags/Order Ref. nr.	Qualità: 316/316L Werkstoff/Grade/Nuance	Punzone del Collaudatore: Stempel des Werkstoffverständigen Inspector's stamp/Plaque de l'inspecteur
Avviso di Spedizione: D-VI18027870 Lieferanfrage/Packing list/L.	Marca: APML Markenbezeichnung Brand / Nuance	Punzonatura: 316/316L Kennzeichnung Marking Marquage



MR

TEST ALLO STATO DI FORNITURA											
Test on delivery condition / Prüfung auf lieferbarem Produkt / Test à l'état de fourniture / Prueba sobre el material así como entregado											
TEST	Provetta/ Probe Spezimen/Éprouvette Lang. diam. Spess. Stärke Durchmesser Wahl. diam. Thickness Lang. diam. épaisseur	°F	Post. Saggio Prüfung Lieu Essai	Sneramento	Sneramento	Resistenza	Allungamento	Strizione	Resilienza	Durezza	
				Stress Yield Stress Limite elastic Rp 0,2% k.s.l.	Stress Yield Stress Limite elastic k.s.l.	Tensile strength Rekötten à traction Rm k.s.l.	Elongation Zugdehnung Élongation Allongement E 4d %	Reduction of area Réduction de surface Elongation RA %	Impact Value Resilience k.s.l.	Hardness Dureté Dureté HB	
Valori richiesti		min		30	-	75	-	40	-	50	140
Autorequisiti/Requisits Valeurs demandées		max		39		115					223
A	12,5	68	L	39		79		63		74	168

TEST ALLO STATO DI FORNITURA		
Test on delivery condition / Prüfung auf lieferbarem Produkt / Test à l'état de fourniture / Prueba sobre el material así como entregado		
TEST	min	max
A Grain size for ASTM E112		1

Mechanical properties according to ASTM A370.

Analisi chimica												
Chemische Zusammensetzung/Chemical Analysis/Analyse chimique												
Colata / Abast.	min	max	1,25	16,50	2,00	10,00	14,00	0,040	0,020	0,100	-	-
Schmelze/Coûlée	0,030	1,00	2,00	18,00	3,00	1,00	14,00	-	0,030	-	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %	-
278063	0,017	0,35	1,77	16,75	2,01	0,39	10,06	0,134	0,034	0,023	0,095	-

Corrosion test in 16% sulfuric acid and copper sulfate solutions							
Test standard: ASTM A262-Practice E							
Test	Heat treatment before test	Length of Period (h)	Test temp (°C)	Bend Angle (°)	Ø spindle (mm)	Result of visual inspection at 20 x magnification after bend test	Result
Intergranular corrosion	Sensitization	15	boil	180	5	Absence of cracks	SATISFACTORY

Produced without class I-II Ozone depleting substances.
 Solution heat treated free from continuous carbide network.
 Annealing temperature : 1940° F for 8 h/water.
 Micro and macro etch test : OK
 Reduction ratio = 4,3 : 1
 Material is DFARS Compliant

Sono stata soddisfatta tutte le condizioni richieste Die gestellten Anforderungen sind z. Aslage erfüllt. The material has been kuhished in accordance with the requirements Le matériel a été livré conforme aux exigences	Controllo antimisciolanza: OK Verwechslungsprüfung: spezialanalytisch durchgeführt Antimixing testing performed: OK Contrôle antimélange I&K: I.A.S.	Controllo visivo a dimensionale: soddisfatta le esigenze Besichtigung und Abmessung: ohne Beanstandung Visual inspection and dimensional check: satisfactory Contrôle visuel et dimension: satisfaisant
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Provided by: ENCORE METALS DIVISION OF RMCL



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CERTIFICATO DI COLLAUDO - ABNAHMEPRUEFZEUGNIS - INSPECTION CERTIFICATE - CERTIFICAT DE RECEPTION

In conformità a: **EN 10204 (2004) , 3.1 / ISO 10474 (2013) , 3.1**

Certificato nr. **MEST319242 / 2018 /**
 Protimp/Text/Esasl

Cliente / Besteller/Purchaser/CClient
VALBRUNA CANADA LTD
8724 HOLGATE CRESCENT
L5T 5Z1 - MILTON, ONT L5T 5Z1 - CA

Stato di fornitura: **Forged - Annealed Peeled**
 Lieferzustand
 Delivery state
 Etat de livraison

Produttore:
 Hersteller/Werks/Usine productrice

ACCIAIERIE VALBRUNA S.P.A.

Ordine nr: **809007124 STOCK**
 Bestell
 Your order
 Commande

Tipo di Elaborazione: **E+AOD**
 Erzeugnisart
 Making process
 Mode d'elaboration

Marchi di Fabbrica:
 Zeichen des Lieferwerkes
 Trade marks
 Signes de l'usine productrice



Conferma ordine nr: **EI18008717**
 Verkaufsur Order/Ref. nr.

Qualità: **316/316L**
 Werkstoff/Grade/Nuance

Punzone del Collaudatore:
 Stempel des Werkssachverständigen
 Inspector's stamp/Poinçon de l'essayeur

MR

Avviso di Spedizione: **D-VI18027870**
 Lieferanweisung Packing Instruct.

Marca: **APML**
 Markenbezeichnung
 Brand / Nuance

Punzonatura: **316/316L**
 Kennzeichnung
 Marking
 Marquage

Melted and manufactured in Italy No welding or weld repair Material free from Mercury contamination

We declare that the finished product is checked for radioactive contamination through Portal System when it leaves the production plant.

QUALITY MANAGEMENT SYSTEM CERTIFIED BY LLOYD'S REGISTER ACCORDING TO ISO 9001 : 2015, IATF 16949 : 2016, AS 9100D

The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1, s. 4.3 and 2014/68/EU by TÜEV and LLOYD'S
 Any act of tampering, modification, alteration, counterfeiting and/or falsification and/or any other action which modifies the contents of this test certificate shall constitute a violation of applicable civil and criminal laws. Acciaierie Valbruna shall protect its rights and interests before any competent court, authority and jurisdiction.
 Maximal and/or Valplus grades/products are manufactured with ladle techniques to control composition, distribution, size and shape of non-metallic inclusions for improved machinability.
 The supplied product conforms to requirements expressly requested by the purchaser and conforms to requirements specified by certified norms and standards. Should the product be used for more severe, critical and/or in any case different applications than those the material is generally intended for, any different and/or supplementary requirements shall be specifically demanded, at least, upon order of the Product by the Purchaser. Acciaierie Valbruna SpA shall not be responsible for any improper use of the Products.

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